

## Sandalwood oils

### Why I oppose their use

A number of people have asked me why I have the logo at the top of my homepage "This site is free of sandalwood & rosewood". I have responded to those questions via emails but feel the time has come to do an article for all to see. The rosewood issue is pretty much covered in my articles but sandalwood less so. Below are my reasons for not using **any** sandalwood oil.

You can find articles on aromatherapy-type websites and in books that give good information on the horticultural, ecological and technical aspects of the various types of sandalwood trees. However, where the majority of these articles are incorrect is when they give the therapeutic effects of using any "sandalwood oil".

**Medicinal claims:** Nearly all the claimed medicinal uses for "sandalwood oils" are based on Indian *Santalum album*. The uses of that oil can be tracked back at least 100 years and much longer for the traditional use of ground sandalwood. For a detailed history see 'The Commercial Products of India' by Sir George Watt. 1907.

*Santalum album* oil has been extensively studied with many research papers published on its properties. The safe levels of use for Indian sandalwood oil have been established while most other varieties have not been officially tested for skin safety.

Problems arise when you examine the therapeutic claims frequently made for oils from species that have chemical profiles nothing like *santalum album*. Examples are:

Australian *Santalum spicatum* has been used as a source of fragrant wood for over 150 years, but the chemical profile of its essential oil is totally different from Indian sandalwood and therefore its therapeutic uses must also be different.

Australian *Santalum lanceolatum* and *Santalum austrocaledonicum* have long been used as a source of fragrant wood but not the oil as a medicinal substance.

There are many sandalwood varieties which yield essential oils with such different chemical compositions that any therapeutic attributes must differ compared to Indian sandalwood. More importantly, none of these essential oils were ever used in the traditional medicine of the native inhabitants. They may have used leaves and ground wood as herbal preparations but not the essential oils. This is because the indigenous people had no traditional knowledge of distillation.

It is only in modern times that some of these oil have been subjected to scientific tests. For example, *Santalum spicatum* was found to have good antimicrobial activity. Jirovetz, Leopold et al. 2005. *Flavour and Fragrance Journal*. 21. 465 - 468. However, that does not mean that *S. spicatum* can be assumed to replicate all the other therapeutic actions of *Santalum album*.

Another example is *S. lanceolatum*. In Australia, the leaves and bark were traditionally infused and consumed for various ailments. However, the essential oil was never used as a traditional medicine, **yet certain authors list all of the conditions that *S. album* has been used for and attribute *S. lanceolatum* oil with the same uses.**

Some suppliers of sandalwood type oils try to confuse their readers by talking about how isomers of the santalols have been researched for their therapeutic activity, which is true. Then they make claims based on these isomers occurrence in *Santalum album*, and omit the fact that these chemicals range from low to infinitesimal in the other "sandalwood" oils that they promote. For example *S. album* has around 46% santalols while *S. spicatum* has less than 2%.

The fragrance of the different types of sandalwood may be pleasant and may have an effect on the brain and emotions. This is not at issue, but rather the issue is the physical therapeutic claims. For example I have found websites making these claims: "cystitis, kidney and bladder inflammation or congestion, pelvic and prostrate congestion". All these claims and others are based on past uses of Indian sandalwood oil and mostly via internal use. There is no evidence that such effects can be achieved by using different types of sandalwood. In addition, please consider that most sandalwood oil on the market is not the genuine article and contains synthetic fragrance chemicals not intended for internal use - [see below](#).

#### Sustainability of supply:

**East Indian sandalwood oil:** Even large fragrance and natural extracts suppliers are using illegally obtained sandalwood from India. As much as 90% of the supply is harvested from the few remaining wild trees. They say nothing about that on their websites of course but criminal activities are the main source of genuine Indian sandalwood oil. Sandalwood smuggling in India has substantially increased, with police killing 20 alleged smugglers in one operation alone in April 2015.

Attempts are being made to increase the Indian production via plantations. It is claimed that these trees can produce viable amounts of oil at around 15 years of age. Farmers are encouraged to create sandalwood plantations by reducing Government regulations on its production. So hopefully in future we will once again have an ethical supply of this essential oil.

**Australian sandalwood oil** comes mainly from wild growing trees. While it is claimed that seedlings are planted to replace felled trees, if those seedlings are cared for in the wild is far from certain. Most are in difficult to reach rough terrain and whether the plants are protected from grazing animals or pests and are watered while they establish themselves is vague. Plantation trees take many years to become an economically effective source of the oil. In addition, illegal harvesting has been reported in Australia including the past involvement of Government officials. *AAP General News (Australia) Nov 18 (2002)*.

There have been court cases where the theft of hundreds of tons of sandalwood from Government owned lands has occurred. The most recent was Stephen Darley the director of AustOils Pty Ltd. Fifty tonnes of stolen sandalwood were discovered at properties he controlled and 200 tonnes of sandalwood byproduct was found at his distillery plant. **He was jailed for two years in 2018 as the result of his activities.**

Plantations of *Santalum album* have been created in the Ord river area of Western Australia, but the ultimate yields seem unreliable and could take up to 40 years to become viable. In addition, underhand business activities have left growers with an uncertain future.

**Vanuatu:** Most of their sandalwood oil comes from wild *S. austrocaledonicum* trees. There is a program for planting seedlings to replace the mature trees but those trees may take a generation or more before they can be exploited. In the mean time it is inevitable that the existing wild trees will become scarcer.

Wood is imported into the main island from surrounding areas such as New Caledonia. In the Vanuatu Daily Post, Feb. 18, 2017, is a report of possible customs regulation avoidance on 6 containers of sandal wood. Smaller volumes of oil do come from other islands where wild trees are harvested but the quality of those oils is extremely variable due to them being a mixture of dead wood and fresh wood.

Much research has gone into establishing sandalwood plantations in the Vanuatu island group, but when those plantations will be producing good quality oil is not clear at the moment.

**Indonesian sandalwood:** A county undergoing massive deforestation due to illegal logging activities and endemic corruption. The burning of forests has blanketed hundreds of miles with smoke that has drifted to neighboring countries and caused breathing problems. Sandalwood distillers have knowingly accepted tons of smuggled sandalwood. There is every chance that sandalwood trees will become extinct in Indonesia. Also, the side effect of illegal logging is the destruction of indigenous flora which probably includes important medicinal plants as well as reducing the wildlife.

**New Guinea sandalwood:** As far back as 2008 Cropwatch reported "that little, if any, Sandalwood oil East Indian is currently available on the spot market, and what there is, it is practically always adulterated".

**Hawaiian sandalwood:** These trees have protected status because they were almost wiped out during the 1800s when vast quantities of wood were exported. Also clearing forests for agriculture further reduced them to a few small groves in isolated areas. There are at least 4 varieties in the Hawaiian islands. Some oil is sold to tourists which is claimed to come from dead trees. Other efforts are being made to restore sandalwood to the Hawaiian islands.

**Chinese sandalwood.** A lot of research has been done on the horticultural aspects of growing sandalwood in China. However, at the time of writing no Chinese grown sandalwood oil is available. On the other hand China imports vast amounts of timber from other countries including sandalwood. Therefore if you happen to see a Chinese oil trader offering sandalwood oil it is not from Chinese trees.

**Synthetic or semi-synthetic sandalwood oils.** There are numerous fragrance trade companies whose main clients are in the perfume and cosmetic products that offer a variety of sandalwood substitutes. Don't think these products would never end up in aromatherapy because they do. Below are examples from different fragrance suppliers websites:

"Use: An excellent sandalwood replacer, much stronger and more lasting than the natural oil. This base is made up of 22 ingredients including 5 naturals, one of which is Vanuatu Sandalwood."

"Use: This base is a synthetic sandalwood oil. It reproduces the extremely fine, powerful, rich and sweet sandalwood odour. It is a complex mixture of captive and patented aroma chemicals, also including essential oils, **but does not contain sandalwood oil**. Can be used in the same way and in the same proportions as the original oil."

"Use: This is an economical sandalwood oil reconstitution. It reflects well the natural sandalwood odor. It is a complex mixture of patented aroma chemicals and **does not contain sandalwood oil**."

Even traders in India are selling "sandalwood Mysore oil" yet when one examines their data sheet the classification is declared as "Nature identical". This means the oil is not 100% Mysore oil and may contain synthetic fragrance chemicals.

#### Summary:

Due to potential high earnings, many countries are trying to establish sandalwood plantations, some have been successful some not. However, for the future things look promising that the oil will again be a sustainable resource. For now I would rather avoid the use of any sandalwood oil due to the various factors mentioned above. Unless you have your own GLC machine you have no idea what is being sold to you. Leave aside the ethical issues for the moment, this raises many safety issues over the use of these oils on the skin and certainly **internal use is ill-advised**.

On the ethical issues I always thought aromatherapists were supposed to be kind caring people - perhaps I was wrong as their demands for sandalwood oil are supporting criminal activities and damaging precious environments.

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